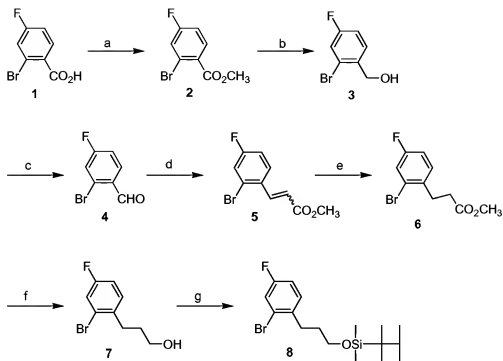


FIGURE 1



(a) CH_3I , DBU, acetone; (b) DIBAL, toluene -78°C to rt; (c) PDC, MgSO_4 , 4Å molecular sieves, CH_2Cl_2 74% from 1; (d) $\text{Ph}_3\text{PCHCO}_2\text{CH}_3$, toluene 95%; (e) $(\text{Ph}_3\text{P})_3\text{RhCl}$, H_2 , EtOH 80%; (f) DIBAL, toluene -78°C to rt 99%; (g) Dimethylhexylsilyl chloride, DMAP, Et_3N , CH_2Cl_2 83%.

FIGURE 2

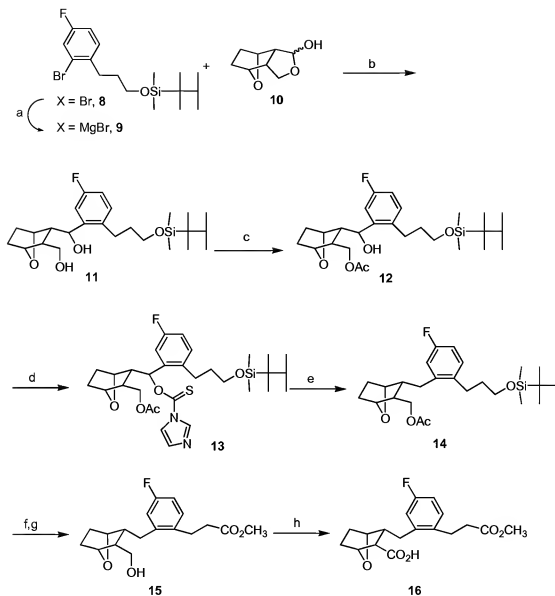
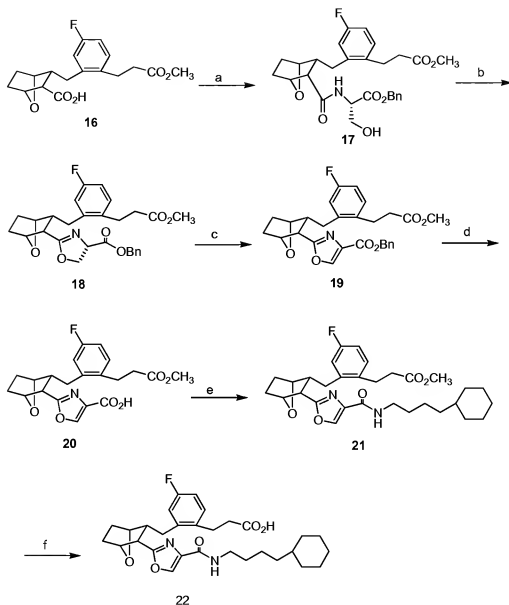


FIGURE 3



(a) L-serine benzyl ester hydrochloride, DCC, HOBt, Et₃N, THF 80% for 2 steps; (b) PPh₃, CCl₄, *i*-Pr₂NEt, CH₃CN 69%; (c) BrCCl₃, DBU, CH₂Cl₂ 0 °C 75%; (d) H₂, Pd(OH)₂/C, EtOAc 100%; (e) i. (COCl)₂, cat. DMF, CH₂Cl₂; ii. 4-cyclohexylbutylammonium chloride, Et₃N, CH₂Cl₂ 78%; (f) NaOH, aqueous THF, 95%.

FIGURE 4

